

## G21D

### NUCLEAR POWER PLANT (electric or magnetic analogue computers, e.g. simulators, for nuclear physics G06G7/54)

#### Definition statement

*This subclass/group covers:*

Aspects of power plants which include, as a power generator, a nuclear fission reactor. Also power plants which convert the heat produced by the fission reaction into forms of energy other than electricity (e.g. mechanical energy).

#### References relevant to classification in this subclass

*This subclass/group does not cover:*

Nuclear fusion reactors	<a href="#">G21B</a>
Aspects related to nuclear fission reactors per se	<a href="#">G21C</a>
Structural combination of fuel element with thermoelectric element	<a href="#">G21C 3/40</a>
Control of nuclear reaction	<a href="#">G21C 7/00</a>
Emergency protection arrangements structurally associated with a reactor; for rapid reduction of reactivity under fault conditions; for suppressing fires	<a href="#">G21C 9/00</a> <a href="#">G21C 9/02</a> <a href="#">G21C 9/04</a>
Pumping arrangements for the coolant by means within the reactor pressure vessel	<a href="#">G21C 15/24</a>
Obtaining electrical energy from radioactive sources	<a href="#">G21H 1/00</a>
Nuclear explosives and their applications	<a href="#">G21J</a>

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Electric or magnetic analogue	<a href="#">G06G 7/54</a>
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computers, e.g. simulators, for nuclear physics	
Thermoelectric elements per se	<a href="#">H01L 35/00</a> , <a href="#">H01L 37/00</a>
Electrodynamic pumps	<a href="#">H02K 44/02</a>

### Special rules of classification within this subclass

Classification of both important (invention) information and additional information is obligatory.

The following Indexing Codes do not follow the general EC/Indexing Code parallel scheme but are used to classify additional invention information for which an EC class is presently not available: [G21D 2003/002](#), [G21D 2003/004](#), [G21D 2003/005](#). If appropriate, these Indexing Codes must be assigned if the corresponding EC subgroup is given, i.e. if [G21D 3/001](#) is assigned.

### Glossary of terms

*In this subclass/group, the following terms (or expressions) are used with the meaning indicated:*

Engine	plant, such as turbine
Engine demand	load

## G21D 1/00

### Details of nuclear power plant (control G21D3/00)

#### Definition statement

*This subclass/group covers:*

Details of the nuclear power plant, other than details of the nuclear reactor per se.

#### References relevant to classification in this group

*This subclass/group does not cover:*

Control of nuclear power plant	<a href="#">G21D 3/00</a>
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## Informative references

Attention is drawn to the following places, which may be of interest for search:

Pumps for liquids per se	F04
Dismantling spent nuclear fuel	<a href="#">G21C 19/34</a>

## G21D 1/006

**Primary side of steam generators (secondary side of steam generators F22B1/00, F22B35/00 or F22B37/00)**

### Definition statement

*This subclass/group covers:*  
Steam generator replacements.

## Informative references

Attention is drawn to the following places, which may be of interest for search:

Secondary side of steam generators	<a href="#">F22B 1/00</a> , <a href="#">F22B 35/00</a> , <a href="#">F22B 37/00</a>
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## G21D 3/00

**Control of nuclear power plant(control of nuclear reaction in general G21C7/00)**

### Definition statement

*This subclass/group covers:*  
Aspects of the control of nuclear power plants, other than the control of the nuclear fission reaction per se.

## References relevant to classification in this group

*This subclass/group does not cover:*

Control of nuclear reaction	<a href="#">G21C 7/00</a>
Emergency protection structurally associated with the reactor	<a href="#">G21C 9/00</a>

Emergency cooling arrangements (primary circuit)	<a href="#">G21C 15/18</a>
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### Informative references

Attention is drawn to the following places, which may be of interest for search:

Electrical digital data processing	<a href="#">G06F</a>
Analog computers	<a href="#">G06G</a>

## G21D 3/001

**[N: Computer implemented control]**

### Definition statement

*This subclass/group covers:*

Computer implemented systems and methods related to nuclear reactor applications, such as design, licensing procedures, fuel shuffling, core loading patterns, data processing, etc.

### Special rules of classification within this group

When this class is assigned, if appropriate, an additional Indexing Code amongst [G21D 2003/002](#), [G21D 2003/004](#) and [G21D 2003/005](#) should also be assigned.

## G21D 5/00

**Arrangements of reactor and engine in which  
reactor-produced heat is converted into mechanical energy**

### Definition statement

*This subclass/group covers:*

Nuclear propulsion, e.g. for applications in ships, submarines and space crafts.

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Arrangements or adaptations of	<a href="#">B64G 1/408</a>
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propulsion systems of cosmonautic vehicles	
Plants characterised by the use of steam or heat accumulators using nuclear heat;	<a href="#">F01K 3/181</a>
Gas-turbine plants characterised by the use of hot gases or unheated pressurised gases using nuclear energy	<a href="#">F02C 1/05</a>

## **G21D 7/00**

**Arrangements for direct production of electric energy from fusion or fission reactions (obtaining electric energy from radioactive sources G21H1/00)**

### **References relevant to classification in this group**

*This subclass/group does not cover:*

Obtaining energy from radioactive sources	<a href="#">G21H 1/00</a>
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## **G21D 9/00**

**Arrangements to provide heat for purposes other than conversion into power, e.g. for heating buildings**

### **Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Methods and apparatus for obtaining oil, gas, water, soluble or meltable materials or a slurry of minerals from wells by means of nuclear energy	<a href="#">E21B 43/2403</a>
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